Improving Wildlife Management and Habitat Conservation

Phase Two Stakeholder Engagement

Policy Recommendations Report

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Acknowledgements

Summary of Recommendations

Wh = Wildlife Planning and Objectives and Wildlife Habitat Management; Dm = Decision Making for Wildlife and Habitat; Da = Data, Information and Knowledge; St = Stakeholder Engagement; Fd = Funding; Ac = Achieving Desired Outcomes

1.0 Introduction

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) is engaging with stakeholders, Indigenous groups and the public in a project known as *Improving Wildlife Management and Habitat Conservation*. Phase One engagement took place in 2018 and included face-to-face discussions and online engagement.

Phase Two engagement (December 2018 – May 2019) was designed to host more detailed discussions with stakeholders from a range of sectors to develop policy options for the government to consider. This included an Opening Webinar on December 10, 2018, followed by a two-day Stakeholder Workshop on January 30 – 31, 2019, in turn followed by a series of topic-specific Working Group Webinars.

A previous report (Alan Dolan & Associates 2019) summarized the results of the January Stakeholder Workshop.

This report summarizes all the results of Phase Two Engagement, hence the combined results of the Stakeholder Workshop and the Working Group Webinars. The recommendations in this report constitute policy advice to the Ministry from participating stakeholders on how to improve wildlife management and habitat conservation in the province.

This report does not include Indigenous engagement, which the Ministry is facilitating as a separate but parallel process.

2.0 Objectives

The overall objective of the Phase Two engagement was to give an opportunity to provincial stakeholder groups to provide input and contribute ideas on ways to improve wildlife management and habitat conservation in British Columbia.

The objectives of the Opening Webinar were to provide information to participants and help prepare for the Stakeholder Workshop.

The objectives of the Stakeholder Workshop were to:

1. Provide an opportunity for provincial stakeholders to meet face-to-face and share their perspectives on wildlife management and habitat conservation in British Columbia

2. Provide time for participants to have in-depth discussions about policy areas of interest to them

3. Begin to develop policy options for the Province to consider

4. Lay the groundwork for further engagement and discussion through Working Group Webinars, and identify participants wishing to participate in these discussions

The objectives of the Working Group Webinars were to:

1. Meet "virtually" and continue to share perspectives on wildlife management and habitat conservation in B.C. by following up on the break-out group work that took place at the Stakeholder Workshop

2. Provide time for more in-depth discussions about policy areas of interest

3. Develop policy options for the Province to consider

4. Lay groundwork for the Province to develop a Policy Intentions Paper and continue with Phase Three engagement

3.0 Approach

3.1 Opening Webinar

The Opening Webinar in December 2018 used the same invitation list as the subsequent Stakeholder Workshop and the Working Group Webinars (see Appendix 6.1), but there was no formalized registration process, so organizations forwarded the webinar login information to other groups and individuals, which enabled them to participate.

Prior to the Opening Webinar, participants were provided with a document that summarized the main policy themes that emerged from Phase One Engagement. This document was a key background piece for the entire Phase Two engagement process (FLNRORD 2019). There were seven policy themes:

1. Wildlife Planning and Objectives

2. Wildlife Habitat Management

3. Decision Making for Wildlife and Habitat

4. Data, Information and Knowledge

5. Stakeholder Engagement

6. Funding

7. Achieving Desired Outcomes

Over 100 people took part in the Opening Webinar, representing eight sectors and over 40 organizations. A presentation provided an overview of the Phase One Engagement and results, and laid out the process for Phase Two Engagement. Questions and answers were handled through the webinar "chat" function.

3.2 Stakeholder Workshop

Participation in the Stakeholder Workshop was by invitation. One person from each organization was invited and organizations were required to meet the following criteria:

1. Provincial in scope and perspective (not regional or place-based)

2. Demonstrated interest in provincial wildlife and habitat policy issues

3. Fall into one of eight identified stakeholder sectors — academia and research; agriculture; energy and mining; ENGOs, conservation and wildlife; forestry; habitat conservation and land trusts; hunters, trappers and guides; tourism and recreation

The number of participants at the workshop was limited because one of the key objectives of this engagement phase was to have collaborative, multi-stakeholder conversations. This approach is only possible if the discussion groups are small. Stakeholders who could not participate in this part of the engagement were informed that they would have another opportunity in the Phase Three engagement process.

Groups that attended the workshop are listed in Appendix 6.1.

The workshop agenda was designed to have multi-stakeholder conversations on the seven policy themes that emerged in the previous consultation processes (Phase One engagement). Methodology, presentations made at the workshop, a summary of the results of the stakeholder conversations as well as complete notes from the breakout groups, Open Space sessions and plenaries can be found in the workshop report (Alan Dolan & Associates 2019).

3.3 Working Group Webinars

The Stakeholder Workshop invitation list, with a few additional participants who were alternate representatives of specific groups, was used for the Working Group Webinars.

Groups invited to the workshop and the webinars, and those who actually participated in those two engagement activities, are listed in Appendix 6.1.

The Working Group Webinars were up to two hours in duration. The usual format of the meetings was a presentation by the facilitator on the particular policy theme, with key questions to stimulate comments from participants throughout the presentation. Policy ideas and recommendations were assessed against a set of criteria, which the Ministry will use when it develops its Intentions Paper in Phase Three:

1. Improves wildlife management

2. Enhances wildlife habitat conservation

3. Increases public trust and confidence

4. Advances reconciliation with Indigenous peoples

5. Makes life more affordable for British Columbians

6. Supports rural economies

7. Efficiency (e.g., harmonize government efforts, minimize resource requirements)

8. Implements quickly

The Ministry provided subject matter experts for each of the Webinars. There was a note-taker in each session and the sessions were recorded in case notes needed to be checked.

3.4 Evaluations

A written evaluation form was distributed at the Stakeholder Workshop and the results of that evaluation can be found in the Stakeholder Workshop Report (Alan Dolan & Associates 2019).

On-screen evaluations were collected from participants during each of the Working Group Webinars.

4.0 Policy Recommendations — Improving Wildlife Management and Habitat Conservation

Note: The document records the views and ideas expressed by participating stakeholders and should not be viewed as consensus recommendations by those stakeholders or actions necessarily supported by the Province.

4.1 Introduction

Throughout the Phase Two engagement process, the meetings were structured to follow the seven policy themes from the Policy Primer (FLNRORD 2019), as noted above in Section 3.1. Part way through the webinar process, two themes — Wildlife Planning and Objectives and Wildlife Habitat Management — were combined because they are closely linked and most of the emerging policies and recommendations were similar.

The nature of the different policy themes creates the sense that the themes are equally weighted in their importance to stakeholders and to the Ministry, but this is not necessarily the case. More than anything, the policy themes were a convenient way to organize all the ideas and talk about them.

As the engagement process proceeded, it became evident that there was duplication of recommendations and cross-referencing of ideas being discussed under different policy themes. To streamline the results, we have covered specific recommendations under only one theme, but we have noted the cross-references where appropriate.

The Stakeholder Workshop and the Working Group Webinars were not consensus-based, decision-making processes. The broad diversity of stakeholder sectors and the short time period available for developing trusting relationships between sectors meant that there was not a "basis of unity," which is a necessary prerequisite for a consensus process.

Online polling was often used to determine "general levels of agreement" with certain policy ideas or recommendations, or to gauge a sense of the priority of the recommendations. The concept of "general levels of agreement" is quite challenging, because any agreement was based on whoever was on the call or in the room, and that changed from the workshop to the first and second rounds of Working Group Webinars.

Analysis and interpretation of the engagement process is largely a qualitative process rather than a quantitative one. Hence, the polling results need to be interpreted cautiously, as they are in no way representative samples, and data from such a small number of stakeholders should not be extrapolated to all stakeholders.

Where there was more than one recommendation option for a particular issue, we presented all the options, although sometimes certain options were removed or modified when it became clear that the policy idea did not meet the Ministry's stated criteria (See Section 3.3 above).

All recommendations that emerged from this Phase Two engagement process (Stakeholder Workshop and Working Group Webinars) are advice to the Ministry and the final determination of what is carried forward to Phase Three is the responsibility of the Ministry.

4.2 Recommendations: Wildlife Planning and Objectives and Wildlife Habitat Management

4.2.1 Overarching principles

The following over-arching principles were raised during Phase Two discussions on improving wildlife objectives and habitat conservation:

- British Columbia's ecosystems need greater resiliency to climate change and its anticipated impacts on wildlife and habitat

- The lack of clear and enforceable objectives is a significant impediment to better wildlife and habitat management

- More deliberate planning and management is required to address escalating human demands and unintended cumulative effects

- Crisis management is not working; government should focus on preventative approaches that avoid species and ecosystems becoming "at risk"

4.2.2 Recommendations and discussion

Wh #1. Increase resilience of ecosystems to address climate change impacts
B.C.'s ecosystems and associated wildlife populations are facing several critical challenges — most importantly, the effects of ongoing and intensifying climate change. To address these issues, deliberate actions are required to increase the resilience of B.C.'s ecosystems. Resilient systems are able to absorb or avoid damage without failure. This means managing the land base such that critical structures and functions are maintained in the face of managed activities such as resource use, as well as external shocks and pressures such as wildfire and climate shifts.
(Webinar poll: 5 highest priority, 2 moderate, 2 lowest priority)

Improving resilience includes proposed actions for protected areas and also for the matrix of mixed use and private lands outside protected areas:

> **Wh #1.1. Provide adequate habitat refugia by expanding and strengthening habitat conservation mechanisms such as parks, designated areas and retention requirements**
> Many participants suggested that protected areas need to be expanded significantly to increase resilience, and there was concern about the vulnerability of protected areas to natural disturbances such as wildfire. With climate change, ecosystems and species distributions are expected to shift. However, there was no consensus on how this issue should be addressed through a revised approach to protected areas planning (e.g., "static" versus "dynamic" reserves).

> **Wh #1.2. Improve connectivity between habitats to support dispersal, maintain gene flow and accommodate species shifts**
> In addition to the importance of refugia provided by protected areas, there was concern about the ability of species to disperse through the surrounding habitat matrix, particularly as activity intensifies on the "working land base." Improving connectivity was seen as a key action to improve resilience.

Wh #1.3.   Strengthen private land conservation to recognize and enhance the role that private landowners play in providing suitable habitat and connectivity for wildlife

There are private landowners who provide significant habitat for wildlife (e.g., private managed forest land, ranches). Because wildlife is publicly owned, this is a benefit provided for "free" to the broader society. In some cases, there is a cost associated with this for landowners, which creates a long-term risk to the public. Benefits for wildlife could be improved and secured if incentives were available to private landowners. (See also recommendations 4.2.2 #6 and 4.6.2 #10)

Wh #2.   Maintain and enhance ecosystem services to address current and future needs

B.C.'s ecosystems provide a variety of goods and services that contribute to the socio-economic health of the province and it is critical to maintain and enhance the flow of these benefits. With respect to wildlife management and habitat conservation, this means:

- Supporting adequate wildlife populations for sustenance, recreation, commercial, spiritual and sustaining functions

- Protecting and managing sufficient habitat to meet wildlife objectives and to support other services (e.g., clean drinking and surface water, stormwater management, fibre)

There was particular concern expressed about the growing demand for wildlife and ecosystem services from an increasing human population. Allocating shrinking wildlife populations and related habitat to address competing demands is the defining challenge of wildlife and habitat management.
(Webinar poll: 4 highest priority, 5 moderate, 0 lowest priority)

Wh #3.   Establish clear and enforceable objectives for wildlife and habitat

Establishing enforceable objectives for wildlife and habitat was a commonly raised recommendation throughout the consultation process. It was cited as one of the most important problems facing our current management approach. Specifically, current objectives were considered inadequate because:

- Wildlife and habitat needs are currently framed as a constraint on other activities [e.g., "not unduly reduce the supply of timber" – Government Actions Regulation 2(1)(b)]

- Objectives are framed as broad and/or aspatial guidance in regulation

- Most objectives reside in policy and can be traded-off against other values

Significant concern was expressed by most participants that the current system did not put wildlife and habitat on an equal footing with other objectives and that statutory decision makers and support staff (e.g., biologists and other resource professionals) had limited ability to ensure that wildlife and habitat were adequately protected and managed effectively.
(Webinar poll: 9 highest priority, 0 moderate, 0 lowest priority)

Specific recommendations related to setting objectives included:

Wh #3.1.   Explicitly link habitat objectives and wildlife population objectives

Participants generally agreed that population objectives should be clear and many called for legal objectives. This may not be feasible because there are reasons that wildlife populations fluctuate that are outside management control. However, it is critically important to ensure that legally enforceable habitat objectives are linked to population goals for wildlife species.

Otherwise, inadequate habitat may be protected/managed to accommodate desired wildlife populations.

The challenge of setting population objectives was acknowledged and most agreed that an iterative process would be required to establish a workable approach. It was noted that all jurisdictions face similar problems and that there could be lessons learned from elsewhere.

Objectives will need to address both hunted and non-hunted species and their habitats and should focus on recovering rare species, and maintaining or increasing abundant species. In some cases, there will need to be trade-offs (e.g., moose, wolves and caribou) because managing to abundance for all species is not feasible. Objective-setting and associated management planning will require a mix of single species, guild and ecosystem-scale considerations.

Habitat and population objectives should be science-informed but respect Indigenous rights and title, as well as be informed by stakeholder input and socio-economic values.

Wh #3.2.   Expand monitoring of both wildlife populations and habitat conditions
The need for additional monitoring, as it relates to each objective, was a consistent theme during the workshop and webinars. This is particularly important under a revised management regime with clear objectives. The status of wildlife populations and the condition of their habitats need to be assessed in order to identify any required management revisions. (See also recommendation 4.7.2 #1)

Wh #3.3.   Develop a comprehensive legislative and policy framework to integrate a revised approach to wildlife and habitat management
Participants largely agreed that specific objectives need to be driven by a legislative and policy framework that addresses:

- Indigenous rights

- Role of science and other knowledge systems

- Links between wildlife populations and supporting habitats

- Carrying capacity of habitats

- Uncertainty and monitoring requirements

- Feasibility of achieving objectives

- Increasing demand

- Cumulative effects considerations

- The need for regional flexibility

- Input from a range of stakeholders

- Social values (e.g., values placed on specific species, or value placed on B.C.'s wild nature "Super, Natural British Columbia")

- Economic considerations

- Impacts on existing rights holders and users

Wh #4. Increase effectiveness/resilience of B.C.'s landscape design

This recommendation is similar to #1 and some participants thought they should be combined. The thesis behind this recommendation is that our system of protected areas, land-use designations and regulatory requirements has been developed over many decades and has involved a myriad of negotiations and trade-offs. Despite having more than 50% of the province's land base in some kind of conservation designation, many questioned the effectiveness of the result for maintaining wildlife and habitat. Addressing this recommendation involves reviewing our current management through the lens of landscape ecology, conservation biology and other integrated approaches for their consideration of ecosystem-based management, connectivity, resiliency, cumulative effects and more.

(Webinar poll: 6 highest priority, 3 moderate, 0 lowest priority)

Wh #4.1. Complete landscape unit-level planning

While the effectiveness of B.C.'s broad-scale system of protected areas and designations is being questioned, planning at a finer landscape unit scale was never completed, and this was identified as a gap by some participants.

Wh #4.2. Implement stronger site-level reviews of projects with greater involvement of Indigenous communities and stakeholders, as well as greater cooperation among professionals

Many participants noted a shift away from on-the-ground collaboration and towards higher-level planning and single-sector professional responsibility. Many suggested that this has resulted in poorer environmental management overall and has reduced support from local communities.

Wh #5. Address escalating human access and cumulative effects

As B.C.'s human population increases, so does demand for land-based resources of all kinds. These new demands are occurring on top of past land-use legacies, generating unintended cumulative effects. Action is required to reduce both the relative impacts of future activities and to restore legacy impacts. Cumulative effects were discussed extensively during the workshop sessions and in the webinars. (See also recommendation 4.7.2 #11.)

(Webinar poll: 6 highest priority, 3 moderate, 0 lowest priority)

Specific recommendations to address this problem included:

Wh #5.1. Comprehensive habitat restoration to accelerate the recovery of legacy impacts

There are many human-related impacts that will remain for a very long time unless additional steps are taken to aid the restoration process. This is a major issue for roads, old seismic lines, abandoned mines and similarly disturbed areas.

Wh #5.2. Develop a roads and access strategy to mitigate the unintended consequences of unregulated human access

While participants noted that access to the land base is important for Indigenous communities, the general public, and tenure holders, roads are associated with a variety of direct (hydrological changes, erosion, etc.) and indirect impacts (human-wildlife conflicts, increased hunting pressure, predator access, etc.). Many participants suggested that balancing the desire for access with mitigating unintended impacts requires the development of a comprehensive roads

and access strategy. It was noted that this had been a government priority in the past but that the draft legislation had never been implemented.

Wh #6. Explore incentive models to improve wildlife and habitat management
Properly valuing wildlife was a prominent theme in some workshop and webinar sessions. In addition to intrinsic valuation, many participants extended this concept to explicit economic valuation and suggested using financial incentives to alter public behaviour toward wildlife and habitat. Specifically, this would involve implementing new fees, or raising existing fees for wildlife "consumption" (e.g., hunting and vehicle collisions, or indirectly, through destruction or alteration of habitat). Conversely, private landowners or groups who contribute positively to wildlife and habitat values could be compensated (see Section 4.2.2, #1c and Section 4.6.2).
(Webinar poll: 2 highest priority, 5 moderate, 2 lowest priority)

Wh #7. Develop a provincial wildlife-human conflict strategy
This recommendation figured prominently in Phase One and was strongly supported by some participants in Phase Two. As humans continue to intrude on wildlife habitat, and as some wildlife populations continue to grow within human-dominated areas, conflicts are increasing and a comprehensive strategy is required to address issues such as habituation/sensitization of wildlife, defence of property, human safety, and acceptable/suitable control methods.
(Webinar poll: 3 highest priority, 3 moderate, 3 lowest priority)

4.2.3 Additional recommendations
Other recommendations discussed and addressed under other policy areas included:

- Align regulatory requirements for wildlife and habitat across all Crown land users (See Section 4.3.2 Dm #1 and Dm #2; Section 4.7.2 Ac #1)

- Provincial Wildlife Board / Minister's Advisory Council (See Section 4.5.2 St #2)

- Regional Advisory Committees (See Section 4.5.2 St#3; Section 4.7.2 St#3)

4.3 Recommendations: Decision Making for Wildlife and Habitat

4.3.1 Overarching principles
Several overarching principles came up repeatedly in Phase Two discussions on improving decision making for wildlife and habitat. These included direction to:

- Link wildlife and habitat objectives

- Evolve beyond our current way of thinking and approach — from considering how can we best manage wildlife so that we have 'enough' for our anthropogenic purposes to an approach that looks through the lenses of landscape ecology and cumulative impacts and always priorities high biodiversity and resilient ecosystems and wildlife populations

- Include both short-term actions (such as legislative updates) to address the urgency of the issue, and combine it with longer term actions (such as new legislation) that will be bold and sustaining

- Ensure socio-economic considerations are included (e.g., high involvement in recent caribou recovery strategy meetings, grizzly bear hunt consultation shows that wildlife management is closely tied to socio-economic factors)

- Decision making must become more integrated across ministries and across sectors

4.3.2 Recommendations and discussion

Dm #1. Update and harmonize objectives across all legislations so they apply across a range of natural resource decisions (applying to all human activities, including industry and recreation, equally)

Participants voiced very strong support for this recommendation as more clarity and an even playing field for all land users (e.g., industries, tourism and recreational users) is desired. Currently the level of protection of a natural value defaults to the least-restrictive regulations (e.g., a range of riparian regulations restrictions and buffers exist). As part of harmonizing objectives, it was understood that wildlife and habitat objectives must be considered together to make them more meaningful, and that cumulative impacts must be considered and addressed.

Much of this discussion centred around bolstering the authority within the *Wildlife Act* so that all land-use decisions would have to consider Wildlife and Habitat. This would include appropriate documentation and approvals.

Recommended updates to existing legislation that could have substantial impact with relatively limited effort and cost are listed below:

- *Wildlife Act* – Ensure it adequately prioritizes/values wildlife through habitat and biodiversity considerations in addition to population considerations; improve ability to manage access management/resource road closures

- *Forest and Range Practices Act (FRPA)* – Reconsider harvesting methods, herbicide application, and access; include landscape planning; improve enforcement; remove language that prioritizes timber supply over other values; and strengthen Wildlife Habitat Areas and Ungulate Winter Range provisions

- *Federal Migratory Birds Convention Act* – Re-evaluate timing windows and species-based restrictions; require surveys; improve enforcement (note that this is outside the scope of this project to directly address because it is a federal statute)

- Wildlife Management Areas (WMAs), established under the *Wildlife Act,* were identified as a powerful habitat conservation tool, in part because they can consider a myriad of activities that affect habitat and wildlife behaviour. Participants recommended that specific wildlife and habitat objectives be established for WMAs.
    - The Todagin WMA was provided as a good example of how wildlife and habitat can be considered in land-use decisions.
    - However, WMAs were felt to be contingent on regional FLNRORD staff supporting them, so would not be effective without sufficient resources to support objective-setting and management. It was also noted that areas outside of WMAs need to consider wildlife and habitat objectives.
    - Participants recommended increasing support for the Conservation Lands Program including WMAs as a management tool.

It was generally felt that amending existing legislation may be more expedient than drafting new legislation. Focusing on updates to the *Wildlife Act* and *FRPA* would reap the most benefit if they were updated to give much more priority to wildlife and habitat. Enabling Section 93.1-93.3 of the *Land Act* to permit objective setting that could apply to natural resource management sectors was another tool identified that could potentially be implemented quickly.

(Webinar poll related to harmonizing objectives: 8 strongly supported, 6 supported, 1 neutral, 0 opposed/strongly opposed; Webinar poll related to updating existing legislation: 8 strongly supported, 4 supported, 2 neutral, 1 opposed, 0 strongly opposed)

Dm #2. Develop new legislation that would apply to all human activities, e.g., *Biodiversity Act*
Participants voiced very strong support for this recommendation as it would signal a new way of looking at wildlife and habitat; one that recognizes the challenges faced, and adequately protects populations and habitat from the perspective of landscape ecology, connectivity, ecological resiliency, cumulative effects and other, more integrated approaches to landscape management. Some raised concerns relating to the time and work required to develop new legislation.
(Webinar poll: 6 strongly supported, 5 supported, 3 neutral, 1 opposed, 0 strongly opposed).

One scenario put forward was to legalize objectives under the *Wildlife Act*, and under other new legislations, such as a *Species at Risk* or *Biodiversity Act* to address habitat objectives. Another idea was to tie habitat and population objectives for species to defined management areas and develop a defined process that outlines how statutory decision makers are to weigh these with the other objectives.

The general feeling was that new legislation is important but it will likely take a long time compared to revisions to the *Wildlife Act*, so the two should happen in parallel. This would serve to address both shorter- and longer-term goals.

Dm #3. Consider an office of the Chief Biologist or Ecologist to make overarching wildlife and habitat decisions
There was strong support for this recommendation to increase transparency around decisions, and to have science-based decision-making that includes consideration of identified shared values, though this one had the greatest number of neutral perspectives.

The comparison was made with the position of Chief Forester, how that works and how it could be improved, although it was not clear how a centralized Chief Biologist would be useful where decision making is delegated to the regions. The Chief Forester was generally seen to have a good, transparent process with set objectives related to timber supply. The Chief Forester considers current management and can alter the allowable annual cut of timber according to factors related to ecological or other values. The process includes information sharing with the public and their input is sought on allowable annual cut decisions. For this process to work for habitat and wildlife, objectives must be defined first, and the economic value of ecological services and wildlife values must be considered.
(Webinar poll: 6 strongly supported, 3 supported, 5 neutral, 1 opposed, 0 strongly opposed)

Dm #3.1.   Option: Consider an independent scientific panel to compile/review/summarize current science and to present to government
People were generally more supportive of an independent panel (Natural Resources Board?) advising decision-makers, rather than a single person acting as the Chief Biologist or Ecologist, to ensure oversight and to limit political influence. A panel would use set objectives and would be transparent about how it weighs science-based information alongside shared values. It would be critical to have adequate resourcing so that the status of a given value could be monitored.

However, participants felt that there is some merit to a mixed model, with advice and recommendations provided by a panel, and with a Chief Biologist making decisions based on the panel's advice.

(Webinar poll: 9 strongly supported, 5 supported, 1 neutral, 0 opposed or strongly opposed)

Dm #4. Increase transparency around decision making
There was a desire by participants to ensure that land-use decisions value habitat and wildlife by requiring natural resource decision-makers to publicly post a rationale explaining how they considered wildlife and habitat objectives in their decisions.

There was strong support for this recommendation. Having underlying objectives for both wildlife and habitat goes hand-in-hand with this. Many participants would like to see a defined process to document how decision-makers weigh habitat and population objectives relative to other objectives, and to discuss situations where objectives cannot be met due to variables like climate change, disease, etc. This would also allow industry and other land users to know what to expect so they could improve wildlife and habitat outcomes, and would address the perception that wildlife values can be ignored.
(Webinar poll: 8 strongly supported, 5 supported, 2 neutral, 0 opposed or strongly opposed)

4.3.3 Additional recommendations
This section focused on recommendations related to aligning and applying the regulatory framework. Other discussions in the Decision-Making sessions were important but are now included in other policy areas:

- Provincial Wildlife Board / Minister's Advisory Council (See Section 4.5.2 St#2)

- Regional Advisory Committees (See Section 4.5.2 St#3; Section 4.7.2 Ac#6)

- Shared decision making with First Nations (Related to Section 4.5.2 St#1 and St#2)

- Objectives (See Section 4.2.1; Section 4.2.2 Wh#3)

4.4 Recommendations: Data, Information and Knowledge

4.4.1 Overarching Principles

- Data and information collected by the Ministry and other parties for the Ministry should be made available to all British Columbians

- There are many opportunities for different agencies and governments to collaborate around the sharing of data and information

- Data, information and knowledge take many forms — scientific, local knowledge, Traditional Indigenous Knowledge — that should be integrated and considered in all decisions

4.4.2 Recommendations and discussions

Da #1. Publish annual report on state of wildlife in BC
Participants felt it was important that the Ministry prepare an annual state-of-the-wildlife report that provided varying levels of detail on

- Threats to wildlife and more global challenges

- Population numbers and the status of "endangered" species including a summary of progress towards conservation goals on a regional and provincial basis

- Both wildlife and habitat status (amount, condition, natural/anthropogenic disturbances, etc.)

It was suggested that the report could be based on a combination of the best-available information from:

- Science (including Citizen)
- Local knowledge
- Traditional Ecological Knowledge

(See "Reporting" recommendations in Section 4.7.2.)

Da #2. Expand and promote use of Citizen Science for gathering wildlife and habitat data

There was considerable support for using Citizen Science to conduct wildlife and habitat inventory and research. A number of participants noted that there are already a number of established Citizen Science tools being used across the province and in many cases, they are under-utilized. They include:

- Road Watch BC
- Wild Cam (network of remote cameras to collect data; great opportunity for partnerships; public education and engagement)
- Moose Tracker App
- Moose winter tick survey
- Public wildlife counts, Wild Sheep Society
- Grizzly bear hair count in Kootenays
- Public bird counts (good indicators of habitat)
- Southern interior mule deer project
- BioBlitzes throughout the province (inventorying all species in a certain area – e.g., Site C; micro-blitz for fungi in Metchosin)
- iNaturalist (worldwide, but could it be used for provincial data)
- Vaseux Lake sheep count (since 1951, involved local community and provided long-term trend data for sheep management)
- Grand Slam Club funding of south Okanagan sheep die-off research (disease transmission of wild sheep)

Participants felt there was a need for a strategic plan to support and incorporate Citizen Science into the work of wildlife biologists. There needs to be human resources at the Ministry that are dedicated to supporting the incorporation of Citizen Science. Other comments related to Citizen Science included:

- Must be well documented to be credible
- Need for feedback loop to identify gaps that Citizen Science can help fill
- Ministry should create a dialogue/database for sectors to help fund projects and research
- Opportunity to gather data collected by volunteers who work with local schools.

Da #3. Develop centralized access to online databases of data and information
Participants believed there was a significant need for all information and data to be more publicly accessible. There was a sense that the data and information was there, but there was no communication on how to find it. As one participant put it: "We don't know what data government has, or what stakeholders are allowed to ask for."

Rather than creating a new centralized database, a web portal that directed users to all the different sources of data and information would constitute a marked improvement. Some participants suggested that there was a need for an organization to pull all the data together and make it available. Potential sources of data include the Conservation Data Centre, Species Inventory Database, NatureServe, and many others.

It was noted that there needs to be standards for data collection, quality assurance, storage, management, analysis and reporting. The standards will vary depending on whether it is a centralized or distributed database.

Participants also discussed what criteria should be used to prioritize data collection. Prioritizing depends on objectives are being set. Whether it is Citizen Science or industry-collected data – the objectives need to be clear. A broad selection of priority data collection areas was discussed and these have mostly been incorporated into the other Policy Theme Sections.

Data variability was also discussed, both in terms of the quality of certain types of scientific data and the range of information that is generated from science, local knowledge, and Traditional Ecological Knowledge. Some participants wanted to have a clear distinction between scientific knowledge used to make decisions and the values and other social aspects that entered into those decisions.

There was a discussion of data gaps, how to identify them, and which data gaps in B.C. are the most significant. It was suggested that financial resources should be directed towards the most significant data gaps. The focus should also be on repeating the collection of data in a standardized way over time to establish trends, which are extremely important for wildlife management and habitat conservation. (See "Reporting" recommendations in Section 4.7.2.)

Da #4. Foster partnering to collect and share data between different organizations and agencies
Participants spoke at length about the opportunities for collaboration between governments, universities, industries, and First Nations. A number of examples were put forward. For example, the oil and gas industry collects quite a bit of wildlife/habitat information and there is an opportunity to share and collaborate with them. Wildlife traffic death stats are collected by three different groups and they aren't coordinated and should go into central data repository to drive realistic conclusions.

The Boreal Caribou Research and Effectiveness Monitoring Board was raised as an excellent example of industry-government collaboration to inform better decisions. The Board funded research for caribou predator-prey dynamics in B.C. and "drove" scientific questions to fill knowledge gaps.

Forest and Range Evaluation Program was suggested as another example of collaboration. The program sets guidelines and standards to look at site level issues with a systematic approach that could be applied to evaluation at a landscape scale.

It was noted that some data may be sensitive and there could be confidentiality issues, both culturally and economically.

Da #5. Develop a data management policy to streamline the process
Participants felt that a comprehensive data management policy needs to be developed by the Ministry that includes all the stages of the data management process – identification, collection, analysis, and sharing.

The policy should include an independent audit and evaluation function for data management, including an assessment to determine if the correct data are being collected at the appropriate scale and frequency. This would improve public confidence in the data and information, and in the resulting decisions.

4.4.3 Additional recommendations

- Make data and information a priority for ongoing supportive funding (See Section 4.6)

(Note: no online polls were conducted for Data, Information and Knowledge policy theme)

4.5 Recommendations: Stakeholder Engagement

4.5.1 Overarching principles

- Government needs to address the high level of mistrust by stakeholders

- Government needs to communicate better to all groups and all geographic areas of the province about engagement processes

- Engagement processes need to communicate with stakeholders and the public:

    o What was heard

    o What was done about it

    o Why that was done ("Just let us know why you did what you did; How did our participation feed into decision making?")

- Stakeholder engagement should occur early, not half-way through the process

- Youth engagement (ages 18 – 28) should be improved

- A threshold for engagement should be defined, since not all processes need to have engagement

4.5.2 Recommendations and discussions

St #1. Minister's Advisory Council
Although it sometimes had different names — Minister's Council, Provincial Advisory Committee, etc. — the idea of a provincial group that provides advice to the Minister and the Ministry was raised many times.

There was general agreement that the Advisory Council should have broad sectoral representation with consumptive and non-consumptive stakeholder groups, similar to the nine sectors in the present engagement process on improving wildlife management and habitat conservation).

It was felt that the Council should be high level, directly reporting to Minister. An example put forward was the Minister's Tourism Council, which meets quarterly and the chair and vice-chair meet monthly with the Minister of Tourism. The Tourism Council provides advice on a broad range of policies and initiatives that inform the provincial tourism strategy.

It was noted that the Advisory Council needs to have carefully prepared terms of reference. Some ideas for those Terms included:

- Objectives

- Nature of advice to Minister

- Expectations of response from Minister and Ministry

- Care around overlaps with other councils (e.g., Forestry)

- Staggered appointments for continuity

- Nature of communications to other groups and individuals

Participants felt that the committee should deal in broad policy issues that are provincial in scope. Sub-committees could be formed to deal with issues in more depth. While there were some differences of opinion amongst participants, Ministry staff involved in the Stakeholder Workshop and Working Group Webinars suggested that the present Provincial Hunting and Trapping Advisory Team (PHTAT) should remain a separate entity, as it is mainly concerned with hunting, trapping and guiding regulations and legislation.

A number of participants indicated that Indigenous involvement on the Council would be important. (Webinar poll: 6 high priority 0 moderate priority 0 low priority)

St #2. Regional Advisory Committees
While there are some regional PHTAT-type groups and also some species-specific groups meeting, it is not consistent across regions. Participants suggested that mirroring the provincial advisory committee (Minister's Advisory Council), there should be Regional Advisory Committees.

The Regional Advisory Committee would have a broad focus on wildlife use, population management and habitat conservation. It would have broad sectoral participation, and participants noted that this is a significant change from how things have been done in the past, but they felt it was important to look for common ground amongst broader groups of stakeholders.

Participants said that the Committee should get into more of the "nitty-gritty" of wildlife and habitat and discuss issues that are important to their region. They felt the groups should be professionally facilitated and they would benefit from professional guidance (RPBios) to ensure regional advice is appropriate.

The terms of reference for the Regional Advisory Committee are critical, including such things as:

- Roles of participants and ministry staff

- Membership

- Representativeness — representing a sector or representative of a sector

- Indigenous involvement is important

- Quarterly meetings

- Two-way communication with the Minister's Advisory Council

- Technical advice, regionally focused but at times provincial in scope

- Financial support

(Webinar poll: 5 high priority 1 moderate priority 0 low priority)

St #3. Management Planning Engagement
The Ministry often engages around management plans of individual species, multiple species, or specific geographical areas. Participants felt that these sorts of engagements were often very important and deserved to have careful attention. There were two points of view

1. Need to move away from the culture of iconic and significant species and value biodiversity and ecosystem function instead

2. Public demands powerful engagement processes on species that are seen as significant and government often funds these species accordingly

(Webinar poll: 3 high priority 3 moderate priority 0 low priority)

St #4. Co-ordinate engagement
Participants noted that there are too many different engagement initiatives going on at one time. Many stakeholders are feeling "burned-out" and overwhelmed. It was felt that there is a need for a strategic framework where the Ministry states what the purpose is, with whom it wants to engage, and what the strategies are to achieve those outcomes (business planning) to put into context at a high level.

Participants noted that "bundling" initiatives is an excellent idea, such as was done in this project in April 2018 (Species at Risk, Wildlife and Habitat Management, and Caribou Recovery). Different parts of Ministry also need to co-ordinate their engagement activities.

One participant suggested that there was a need for a road-map of all the different engagements, where they are going and key milestone dates. These could be housed at Engage BC (see below).
(Webinar poll: 4 high priority 2 moderate priority 0 low priority)

St #5. Improve Engage BC
In general, participants like the services that Engage BC provides but they felt there was room for improvement. They felt that Engage BC should continue to allow people to see what others are saying — submissions, emails, reports — as all that is very useful, but there is a need to "tone down the rhetoric," remove some of the negative and hateful comments and make involvement on the site a more positive experience.

It was felt that this could be accomplished by more active moderation of the "blog" part of Engage BC, including revisiting the guidelines for posting, pointing out those guidelines to posters when appropriate, and removing posts that did not adhere to the guidelines.

It was noted that lots of things get posted on Engage BC but often people are not notified about the process (see #6. below). There is a need for follow-up with reports and summaries, although participants

noted that this project is an exception. Participants noted a desire to receive personal responses to their contributions, rather than an automatic, electronic response.

Participants commented that some of the out-going communications from Engage BC could be improved including:

- Simpler, shorter and clearer communications

- Presenting the context of a decision and why public engagement is taking place

- Use of short videos

- Starting with short, simple information and allowing users to "dig down" or "click" for more detailed information, a "layered" approach to information

It was felt that there was a need for a demographic study of Engage BC users to help better understand responses and better communicate with public and stakeholders.

Some concerns were raised around the use of Engage BC by non-locals, including people from outside B.C. There was concern that with online engagement, anyone can take part and government may be receiving input from a biased and sometimes misinformed sub-sample of the population. Participants had two different opinions on the who should be able to participate:

1. Non-locals should not be providing input on local issues because they are not well informed

2. Users may well be informed even if they do not live locally

(Webinar poll: 0 high priority 4 moderate priority 2 low priority)

St #6. Improve Communications
Targeted emails are a very important mode of communication and participants from all geographic regions and sectors indicated that using email to get information to them or to direct them to web-based information, would be very useful and effective. Stakeholder organizations could in turn pass on information to their mailing lists.

The emails could be used for a variety of different issues and initiatives including:

- Management plans for individual species and multiple species

- Regulation and legislation changes

- New Policies

- Hunting closures

- Monitoring and survey information

- Enforcement bulletins

- Forwarding news releases and information bulletins

In order to use email more effectively, there would be a need to develop a comprehensive list of stakeholders and interested public for different issues and initiatives. Participants suggested a number of different ways to "gather" contacts

- Sign-up on Engage BC; choose areas of interest

- Use existing mailings (hunting licences, guiding permits, provincial taxes, etc.) to let people know that if they want information on certain areas, they will need to sign-up

- Province already collects names and email addresses for people interested in news releases of specific topics; could do the same sort of thing on Engage BC for engagement processes

- Hold regular town halls or open houses regionally where people who aren't established stakeholders can find out what's going on and can say if they are interested and sign up

Some privacy concerns were raised. There would need to be clear communications on why contact information is being collected and how it will be used, and stakeholders and the public will need to periodically reaffirm their interest in continuing to receive correspondence and notifications.

It was suggested that a communications plan be developed so that the Ministry could strategically determine different approaches to reach people from different sectors and different geographical areas.

A number of participants raised the need for the Ministry (and the whole provincial government) to design and implement a social media policy. They felt that this would better engage audiences, especially youth. It was suggested that the Ministry would need some dedicated communications specialists to implement the social media policy. A good example that was brought forward is the use of social media by the Ministry of Transportation and Infrastructure.

A number of participants stated that one of the key ways that they communicated with the Ministry was through individual Ministry staff. It was felt that the online government directory needed improvement so people could more easily find certain staff and know what they were responsible for.

Two opinions differing opinions were brought forward:

- Consumptive users are different and should be weighted and engaged with differently from non-consumptive users

- All different values should be represented in the engagement process

Rural stakeholders felt that the Ministry needed to do a better job of reaching rural communities.

A general comment was made around the need for the Ministry to "tell stories" about what is going on (a day in a life of a provincial biologist) rather than "dry" Information Bulletins.

Improve internal communications between regional staff, main office Ministry staff, and politicians was mentioned a number of times. Participants noted that there seem to be inconsistencies in how policy is articulated between different levels of the organization.

And finally, there is a need for more public education so that different user groups better understand each other and conflict is reduced; one participant noted that engagement is about relationships and you can't build relationships without getting people in a room together.
(Webinar poll: 4 high priority 2 moderate priority 0 low priority)

4.6 Recommendations: Funding

4.6.1 Overarching principles

The following over-arching principles were raised during Phase Two discussions on improving wildlife objectives and habitat conservation:

- Funding is not an end in itself, but a means to achieve the desired objectives

- Everyone benefits from wildlife and habitat, so everyone should contribute; this includes both urban and rural dwellers, and all land users (consumptive and non-consumptive)

- The costs of collecting new funds should be reasonable in relation to the value of funds raised. It is better to pursue one or two ideas for raising additional funds, rather than trying to do many smaller options

- It is important to demonstrate the need for funding and show how it will be used (create a compelling story to build public support)

- The government should both raise additional funds for wildlife and habitat and reallocate exiting funds towards preventative measures (and away from crisis management)

- The allocation of funding should be transparent and accountable

- Funds from government should be used to leverage additional contributions

- There should be opportunity for multi-year funding of projects

- There should be a way to "institutionalize" public funding to avoid "boom and bust" funding cycles

4.6.2 Recommendations and discussion

The first set of recommendations looks at how additional funds can be raised to support wildlife and habitat. Participants noted that the need for additional funds is likely high, and many of these proposals are unlikely to add significantly to available funds.

Fd #1.   Ensure that the public understands the need for additional funds
Whether funding comes from taxes, industry or individual consumers, ultimately this cost is supported by individuals. Any new fees or taxes are likely to be controversial—if they are to be successful, they should be supported by a compelling story and clear business case that shows what is currently being funded, current staffing levels, the reason additional funding is required, and how this will be used. People are more likely to accept new fees and charges if they understand that there is a wildlife and habitat "emergency" and that funds will go directly to support identified needs. A good example is the carbon tax, with (most) people understanding that it acts to change behaviour, and that funds raised will support action to address climate change.

Fd #2.   Allocate 100% of the licence fees from hunting and trapping to the dedicated wildlife/habitat fund (not just the surcharge)
The surcharge from licence fees already goes to the Habitat Conservation Trust Foundation (HCTF) to support wildlife and habitat. Stakeholders proposed that all of the funding from licence fees should directly support wildlife and habitat, with the licence fee (less surcharge) going into the dedicated fund. A similar approach is already used for fishing licences, with licence fees going to the Freshwater Fisheries Society of BC, and this approach would likely be supported by stakeholder groups and the public. It is anticipated that this would put $10 million a year into the fund.

(Webinar poll: 7 support, 1 supports in part)

Fd #3.   Increase hunting and trapping licence fees by a small percentage each year
Stakeholders felt that it would be reasonable to have a small cost of living increase each year in fees, e.g., tied to the Consumer Price Index. The Freshwater Fisheries Society of BC supported a similar approach, and it would likely be supported by stakeholder groups and the public. However, it is not likely to be a significant source of revenue, and the number of hunters and trappers is declining over time, so this may provide diminishing returns.
(Webinar poll: 5 support, 2 support in part, 1 opposed)

Fd #4.   Create fees for non-consumptive commercial outdoor activities
A new fee could be added to one or more of the following: guiding, wildlife viewing, adventure tourism, hotel tax, airport tax. It promotes fairness in that all users (non-consumptive as well as consumptive) would pay to support wildlife and habitat in B.C. The Commercial Bear Viewing Association has already imposed a similar fee for people taking guided bear tours, with funds collected by the Association to support grizzly research and conservation. A challenge is that new fees are almost always controversial, so this would need good communications and clear support from diverse stakeholders and the public to make this politically acceptable. The costs of administering and gathering such taxes would need to be considered.
(Webinar poll: 6 support, 2 opposed)

Fd #5.   Create a tax on outdoor equipment
A new fee or tax could be placed on outdoor equipment (e.g., hiking boots, tents). This is consistent with *all users should pay* approach, and people are accustomed to these levies (e.g., eco-fee on paint). Public users of the outdoors might be more open to this cost because purchasers are people who are enjoying the environment and have an appreciation and want it in a state that they can continue to enjoy. Challenges would include administrative costs, political unwillingness to impose a new tax, and challenges for B.C. retailers to compete with online shopping outlets based outside of B.C. who might not be subject to the tax.
(Webinar poll: 5 support, 2 support in part, 1 opposed)

Fd #6.   Create an endowment fund to support wildlife and habitat
A dedicated Endowment Fund could gather contributions from government and private sources, including contributions from out of province. The B.C. Government could make a one-time (significant) contribution to start the fund. Such a fund would provide an opportunity for individuals and corporations to contribute (especially if they see a clear link to supporting wildlife and habitat), thus leveraging funds from other sources.
(Webinar poll: 5 support, 2 support in part, 1 opposed)

Fd #7.   Allow the direct award of court-awarded fines to support wildlife and habitat
Some fines are already awarded to HCTF (at the judge's discretion) and this could be expanded to contributions to the dedicated/endowment fund. It would provide only small amounts of funding, and only provides funds when people have broken the law. This recommendation was supported by most participants.
(Webinar poll: 7 support, 1 supports in part)

Additional ideas raised included: increasing the PST by a small amount, with the increase going to a dedicated wildlife and habitat fund; exploring ways to leverage climate change funding from federal government; and imposing a fine for road or rail wildlife mortalities; and dedicating a portion of the stumpage fees to wildlife management activities.

The next set of recommendations deal with fund allocation and management. Participants recognized that they were not aware of all of the current sources of funding and how these funds are applied to priority areas. It was agreed that it would be necessary to use information on wildlife and habitat needs, implementation outcomes, and project successes to drive some of the financial requirement and allocation priorities.

Fd #8.   Create a dedicated fund for wildlife and habitat. The fund could have different streams of funding, e.g., for research, restoration, administrative costs.
A dedicated fund would provide a clear link between the fundraising and how the funds are used. It would also be easier to track how funds are spent. This also addresses a fear that increased fees will simply 'disappear' into General Revenue and may be used for other government priorities. At the same time, participants raised concern that that Treasury Board could reduce core funding to Fish and Wildlife Branch if money is available from a dedicated fund. In other words, there is a need to make sure that this fund is additional to funds already allocated. Some activities, e.g., inventory and monitoring, should be part of core government work and continue to be funded through general taxation.

The fund needs to be large enough to make significant and bold changes. There are many good lessons to be learned from the HCTF: it has provided stable approach over long period of time. Pacific Salmon Foundation also offers a good model to learn from, especially around leveraging funds; this has worked will to get people excited about contributing and to require matching funding for projects. Participants had diverse views on whether the dedicated fund should be an expansion of the current HCTF or a separate approach.
(Webinar poll: 7 strongly support, 2 support)

   Fd #8.1.   Option. Create an independent institution that has the authority to conduct research and other programs, and is provided with significant funding
   This approach would be an alternative to the dedicated fund. This model is based on the Pacific Institute for Climate Solutions, which was created with a $95-million endowment fund in recognition of the importance of climate action. Participants felt that managing wildlife and habitat is worth same kind of money. A suggested approach was to create the business plan first and then determine if this is a useful form of delivery.
   (Webinar poll: 3 strongly support, 4 support, 2 oppose)

   Fd #8.2.   Create an advisory board (or similar body) to make recommend decisions on funding allocations from the dedicated fund. This board should include representation from government, industry, scientists, practitioners, and people with local/regional knowledge.
   This advisory board would be set up to provide advice on funding allocations from the dedicated fund, and also the delivery of strategic objectives. This board should include representation from government, industry, scientists, practitioners, First Nations and other people with local/regional knowledge – and the regional biologist. It should also be regionally based to reflect the diverse regional priorities. The cost of administration for this board is a concern.

(Webinar poll: 5 strongly support, 4 support)

Fd #9.   Consider incentive based options such as reverse auctions and tax-shifting
There are examples of reverse auctions being used in the U.S. and Canada to support habitat conservation. This may add a useful "tool" in the toolbox, but is unlikely to have broad landscape benefits. It would need funding to support it. (A reverse auction is a type of auction in which the traditional roles of buyer and seller are reversed, with is one buyer and many potential sellers. In a reverse auction, the sellers compete to obtain business from the buyer and prices will typically decrease as the sellers underbid each other. It is used for example, when a government offers to pay for protection of riparian habitat from intrusion by livestock, and farmers compete to offer the best price for habitat protection.)

Tax-shifting of property taxes would follow the example of the Islands Trust NAPTEP (Natural Areas Tax Protection Program) where property owners who covenant their land as wildlife habitat pay lower property taxes (with the difference made up by other local taxpayers). Delivery would be through local governments but would require legislative change to enable this. Some conservation groups have already been encouraging the adoption of a similar approach. Columbia Valley Local Conservation Fund is another example of a new property tax funding model supported by the public and operating to improve buy-in and conservation outcomes.
(Webinar poll: 5 support, 4 neutral)

4.7 Recommendations: Achieving Desired Outcomes
Achieving Desired Outcomes is a final stage in Improving Wildlife Management and Habitat Conservation. Once clear objectives have been set, and programs and activities are in place, there is a need to understand whether those desired outcomes are being achieved.

Achieving Desired Outcomes includes monitoring progress towards objectives, reporting on the findings, and tracking expenditures. Most importantly, it looks at overall program evaluation—what are the cumulative and total impacts of all of the efforts to improve wildlife management and habitat conservation and is this actually making a difference?

4.7.1 Overarching principles
- Monitoring and reporting are important core functions of government. It takes time and money to do this well, and these functions should be adequately resourced.
- Ways to measure progress should be linked to well-defined, overarching wildlife and habitat objectives. (See also Section 4.2)
- Reporting should be open, transparent and easy to access.

4.7.2 Recommendations and discussion
Monitoring

Ac #1.   Create a provincial framework for monitoring, with flexibility for regional variation
A provincial framework for monitoring should be provided so there is consistency, but also allows for regional variation. Monitoring needs to happen at multiple levels: how is wildlife and habitat doing at a landscape level, how are ecosystems faring, how are individual species faring? Successful monitoring will require good baseline data, with ongoing tracking over multiple years to provide trend information (See also Section 4.4). New technologies (such as drones and thermal imaging) provide opportunities for less invasive wildlife monitoring.

Ac #2. Set clear expectations
Monitoring needs to be based on clear objectives and expectations, with sufficient information to inform adaptive management. A suggested approach was a performance rubric with a scoring system to determine if you are meeting those expectations. Monitoring should account for the dynamic nature of landscapes—this is not about static management, there will be a need to go back and revisit objectives.

Ac #3. Consider both landscape-level outcomes and process outcomes
Landscape-level monitoring looks at how species and ecosystems are faring. Are they functional and resilient? What are the impacts of human activities and how can they be reduced or mitigated? Process outcomes look at whether we are following through on plans, and the effectiveness of our actions.

Reporting

Ac #4. Create a provincial-level framework for reporting, with report cards prepared at a regional level
A provincial framework for reporting will provide consistency. Regionally prepared report cards recognize the regional variation and priorities. Regional report cards can be brought together to create a provincial report/overview. Reporting should include industry outcomes, using information that industry is already collecting.

Participants noted that annual reporting can be used as an opportunity for education to raise awareness of the importance of wildlife and habitat and the consequences of failing to achieve intended outcomes. (Webinar poll: 6 support, 1 in part)

Ac #5. Provide independent reporting
Independent and transparent reporting will help to build public trust and confidence in the information provided. This could be a fully independent group or a mix of government and independent members (see Regional Advisory Committees below).
(Poll: 5 support, 2 in part)

Ac #6. Use Regional Advisory Committees (RACs)
RACs are seen as inclusive and transparent and should be used province-wide. These RACs could host stakeholder meetings with regional biologists on a regular basis (e.g., twice a year). This would be an opportunity to review the regional report cards and discuss ways to manage/mitigate any concerns.

These committees should take a proactive approach to wildlife and habitat, recognizing the values of wildlife and habitat as having value (social and cultural as well as economic), and balancing this with other objectives. (See also recommendation 4.5.2 #2 for other roles that the RACs could play)
(Webinar poll: 5 support, 2 in part)

Ac #7. Make reports accessible
Reports should be publicly available, with report cards and the studies behind them posted online. (This should include industry studies where possible.)
(Webinar poll: 7 support)

Tracking Expenditures

Ac #8. Track expenditures from the private sector as well as government, to provide a more complete picture
Having transparent expenditures makes it easier to see how funds are being spent, and linking this to whether funds are being spent effectively. This could include separate tracking of public funds expended by government directly, or public funds spent through third parties including the Habitat Conservation Trust Foundation. It may be useful to track other values (e.g., person hours) in addition to dollars spent.

Where data are available, it could also include private funding (e.g., matching donations to conservation organizations or industry expenditures).

Ac #9. Track value for money spent
Funding should be tied to anticipated outcomes and reporting on those outcomes.

Note that some expenditures may not be achieving desired outcomes because available funds are insufficient, and some projects may take many years to yield results. For projects where goals are long term (years or decades), there will be a need to identify incremental steps that can be measured as progress (or lack thereof) along the way.

Program Evaluation

Ac #10. Take a long-term view
Program evaluation should take a long-term view, looking at where we need to be, for example, 30 years from now, and how best to get there. Then identify a few things to do well to start, and what actions will come next.

Ac #11. Evaluate the cumulative effects of land-use decisions
There are many players on the land with siloed decision making, and a need to focus on cumulative effects and integrated decisions. Recognize that there will be trade-offs in multi-use landscapes and look for ways to harmonize.

Ac #12. Look for incentive-based opportunities to encourage good outcomes
This could include simple actions, such as a letter of appreciation to volunteer groups undertaking habitat restoration. Other examples included relaxing "free to grow" requirements for the forest industry, especially in summer/winter ranges, to benefit wildlife and forestry.

4.7.3 Additional recommendations
Other recommendations discussed and addressed under other policy areas included:

- Moving towards greater integration of land management decisions (See Section 4.3), to avoid contradictory policies and decisions among ministries.

5.0 References

Alan Dolan & Associates. 2019. Improving Wildlife Management and Habitat Conservation, Stakeholder Workshop, Meeting Notes January 30 – 31, 2019

FLNRORD 2019. Policy Primer Booklet

6.1 Appendix: Invitees and Participants – Stakeholder Workshop and Working Group Webinars

Stakeholder participation during Phase Two saw varying levels of involvement by sectors and by organizations. The total number of individuals and organizations that participated in Phase Two engagement activities can be summarized as follows:

Phase 2 Engagement Activity	Number of participants and Organizations Represented
Opening Webinar (Dec 2018)	~61 webinar participants that represented ~43 groups
Stakeholder Workshop (Jan 2019)	44 participants representing 44 groups
11 Working Group Webinars (Mar-Apr 2019)	45 participants representing 35 groups (many of whom attended several webinars, resulting in 138 participations)

The table and charts below provide further detail on which sectors and organizations attended each Phase Two engagement activity, and the extent to which they participated. During the Working Group Webinars, some organizations participated once, while others participated in nearly all of the Webinars. This level of involvement is shown in the final column.

Invited Stakeholders	Initial Webinar	2-day Workshop	11 Working Group Webinars (Times participated shown in parentheses)
Academia & Research			
Association of Professional Biology	✓	✓	✓ (1)
Biodiversity Centre for Wildlife Studies	-	-	-
British Columbia Bat Action Team	✓	✓	✓ (1)
Simon Fraser University	-	-	-
University of British Columbia	-	✓	-
University of Northern British Columbia	-	✓	✓ (1)
University of Victoria	-	-	-
Agriculture			
BC Agriculture Council & BC Agriculture Research and Development Corp.	-	✓	-
British Columbia Cattlemen's Association	✓	✓	✓ (1)
British Columbia Dairy	✓	-	-

British Columbia Fruit Growers Association	✓	-	-
Energy and Mining			
Association for Mineral Exploration	✓	-	✓ (3)
Canadian Association of Petroleum Producers	✓	✓	✓ (10)
Canadian Energy and Pipeline Association	-	✓	✓ (1)
Clean Energy British Columbia	-	✓	-
Mining Association of British Columbia	✓	✓	-
ENGOS/Conservation/Wildlife			
Ancient Forest Alliance	-	-	-
Canadian Parks & Wilderness Society British Columbia	✓	✓	✓ (5)
Federation of British Columbia Naturalists British Columbia Nature	✓	✓	-
Grizzly Bear Foundation	✓	✓	✓ (3)
Organizing for Change	✓	-	-
Sierra Club of British Columbia	✓	✓	-
BC SPCA	-	✓	✓ (4)
West Coast Environmental Law	✓	-	-
Western Canada Wilderness Committee	✓	✓	✓ (5)
Wildland Stewards Association of British Columbia	-	✓	✓ (7)
Wildlife Conservation Society	✓	-	✓ (1)
Wildlife Society - British Columbia Chapter	✓	✓	✓ (10)
Wildsight	✓	✓	✓ (1)
Yellowstone to Yukon	✓	-	-
Forestry			
British Columbia Community Forest Association	✓	✓	✓ (3)
Council of Forest Industries	✓	✓	✓ (2)
Federation of British Columbia Woodlot Associations	-	-	-
Interior Lumber Manufacturers' Association	✓	✓	✓ (3)
Private Forest Landholders Association	✓	✓	✓ (6)
Truck Loggers Association	-	-	-
Habitat Conservation and Land Trusts			
BC Conservation Foundation – Wildlife Collision Prevention Program	✓	✓	✓ (3)

BC Conservation Foundation – WildSafe BC	✓	✓	✓ (3)
Ducks Unlimited, British Columbia office	✓	✓	✓ (1)
Habitat Conservation Trust Foundation	-	✓	✓ (2)
Land Trust Alliance British Columbia	✓	-	-
Nature Conservancy of Canada	-	✓	✓ (1)
The Nature Trust of British Columbia	✓	✓	✓ (2)
Hunters, Trappers, and Guides			
British Columbia Backcountry Hunters & Anglers	✓	✓	✓ (10)
British Columbia Trappers Association	-	✓	-
British Columbia Wildlife Federation	✓	✓	✓ (16)
Guide Outfitters Association of British Columbia	✓	✓	✓ (4)
Sportsmans Conservation Alliance	✓	✓	✓ (2)
United Bowhunters of British Columbia	✓	✓	✓ (6)
Wild Sheep Society of British Columbia	✓	✓	-
Wildlife Stewardship Council	-	✓	-
Tourism and Recreation			
Adventure Tourism Coalition	✓	✓	✓ (2)
British Columbia Off-Road Motorcycle Association	-	-	✓ (5)
British Columbia Snowmobile Federation	-	✓	-
Commercial Bear Viewing Association	✓	✓	✓ (9)
Helicat Canada	✓	✓	-
Outdoor Recreation Council of British Columbia	✓	✓	✓ (2)
Tourism Industry Association of British Columbia	-	✓	-
Wilderness Tourism Association of British Columbia	✓	✓	✓ (2)

December Webinar Participation, by Sector
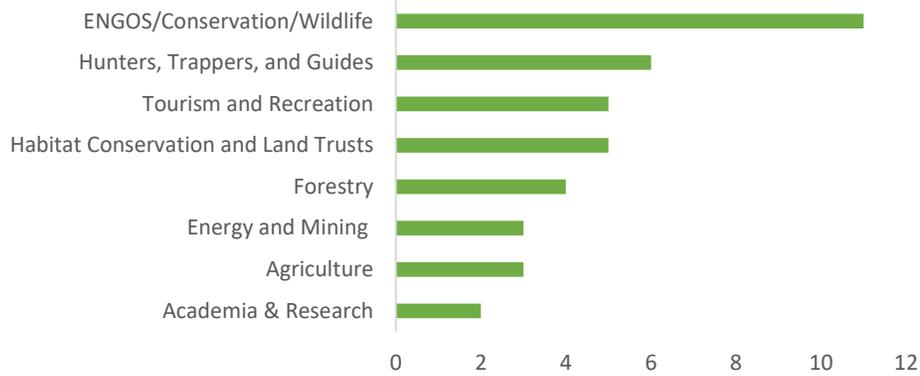
January Workshop Participation, by Sector
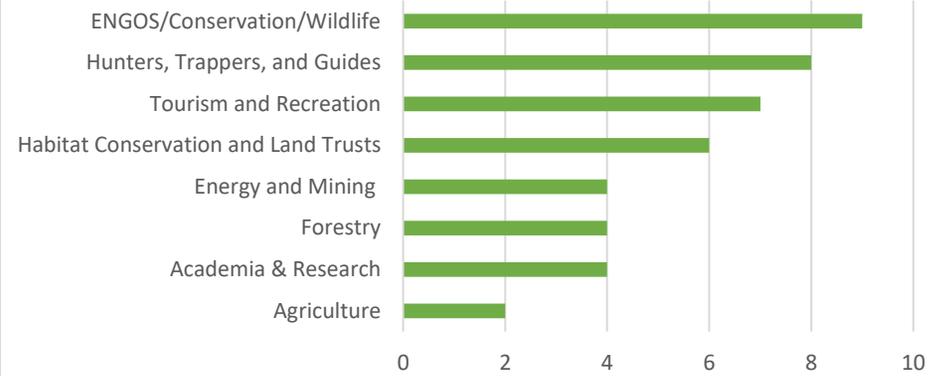
Overall Participation in March-April Working Group Webinars, by Sector